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ABSTRACT

This course guide outlines the objectives and content for a professional continuing education course on the literature of veterinary medicine. Topics covered include: (1) an introduction to veterinary medicine as a discipline, including comparison with other medical sciences, veterinary medicine education, licensure, animal models, veterinary medicine literature, and veterinary medicine libraries and collections; (2) indexes and abstracts, guides to the literature, and other bibliographic tools; (3) the periodical literature; (4) reference materials; (5) core texts in anatomy, histology, physiology, internal medicine, laboratory medicine, radiology, surgery, zoo and wild animal medicine, endocrinology, pathology, parasitology, obstetrics, anesthesiology, immunology, epidemiology, oncology, and pharmacology; (6) federal and state resources; (7) conferences, proceedings, dissertations, and translations; (8) computer searching; (9) instructional media; and (10) professional associations. A list of 15 suggested readings and 25 reference questions with sources for answers are included. (MES)

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CE 60
THE LITERATURE OF VETERINARY MEDICINE

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CE 60
LITERATURE OF VETERINARY MEDICINE

The course will include instruction in the user of library materials, print and non-print, that are unique or pertinent to the provision of information services to the veterinary medical community. Participants should already be familiar with basic biomedical reference works, either through CE 4 or other reference courses, or experience in a health sciences library.

Course Objectives

Upon completion of the course the student will be able to:

1. Outline basic similarities and differences between Veterinary Medicine and other medical disciplines.
2. Summarize the education, training and licensure of veterinarians.
3. Identify and use the major bibliographic tools, serials, reference works, core texts and documents in veterinary medicine.
4. Select appropriate data bases for computer searches in veterinary medicine.
5. Describe the use of and access to, media in veterinary medical education.

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NOTE: References to items described herein includes prices as of February, 1980. Participants should note that these prices may have increased.

I. Introduction

A. Veterinary Medicine as a Discipline

Many people know that Veterinary Medicine is the biomedical discipline which involves primarily the prevention, diagnosis and treatment of animal disease. What is less well known are the implications for human health and welfare that are involved. Infectious diseases communicable from lower animals to man, designated as zoonotic diseases, and other factors make for extensive involvement of veterinarians in public health. Animal models of human disease constitute an important and significant area of medical research conducted by veterinarians. Maintenance of healthy animals for food and fiber production and the care of companion animals that are so important psychologically and socially in our society, contribute in a very direct and real way to the health and welfare of the nation's citizenry.

1. Specialties – five broad areas of specialization
   a. Food and fiber animal medicine (mainly large animal)
   b. Companion animal medicine (equine, small animal and exotic)
   c. Laboratory animal medicine
   d. Regulatory veterinary medicine including Public Health
   e. Zoo animal medicine and wildlife

2. Subspecialties
   a. Basic medical sciences such as anatomy, histology, biochemistry, physiology, pharmacology, pathology, microbiology, parasitology, immunology, genetics, etc.
   b. Clinical medical sciences such as medicine, surgery, ophthalmology, cardiology, reproduction, etc.
   c. Species (swine, equine, bovine, feline, etc.)

3. Employment
   a. Private practice (about 78%)
   b. Research in the academic setting, government laboratories such as NIH and USDA, and industry
   c. Teaching and service in veterinary medical schools, medical schools, land grant colleges and other university settings
   d. Regulatory veterinary medicine in federal, state, regional and municipal laboratories and field services
   e. Armed Services – Army and Air Force
   f. Other – aquaculture, zoo and wildlife, etc.

B. Veterinary Medicine vs. Other Medical Sciences

1. Similarities
   a. The training is virtually the same especially in the basic medical sciences.
   b. The ethical considerations are as strong.
   c. All medical sciences are committed to humanitarian concerns.

2. Differences
   a. More DVM's than MD's go into graduate programs for post-doctoral work; Fewer go into internships, residency and specialty board training although this is changing as more boards are established. There are now approximately 12 specialty boards in veterinary medicine recognized by the American Veterinary Medical Association in contrast to approximately 36 in human medicine.
   b. Proportionately more DVM's than MD's go into research.
   c. The DVM is concerned primarily with animal health, the MD, DO, and DDS with human health, but all are a part of the comparative medical team.
   d. There are significant constraints of economics because there are no third-party pay programs in veterinary medicine and no *community* hospitals. The limitations on delivery of veterinary medical services are economically and scientifically based.

C. Veterinary Medical Education

1. Professional – Doctor of Veterinary Medicine (DVM)

   A four-year professional program follows a *minimal* two-year pre-veterinary program and most students have more. Admission requirements are high and demand for professional training is great, therefore, approximately 90% of first-year students have three or more years or pre-veterinary training. There are 23 accredited schools of veterinary medicine in the US and Canada, and enrollments are limited. Accreditation of the schools is by the Council on Education of the American Veterinary Association (AVMA).

2. Graduate

   All of the schools of veterinary medical education offer graduate programs leading to the MS and/or Ph.D. degrees in the various basic medical and clinical sciences.

3. Residency Programs

   Most of the schools offer post-doctoral internship and/or residency programs in the clinical sciences. Some large veterinary hospitals, such as Angell

Memorial on Boston and Animal Medical Center in New York, also offer post-doctoral training. Some of these programs are approved for specialty board training.

4. Technology

Curricula in veterinary technology are normally two-year associate degree programs which require a high school diploma for admission. These programs are offered primarily in junior colleges, state universities and vocational schools. Graduates are prepared to serve as technicians or assistants for veterinarians and do this primarily in practice.

D. Licensure

Each state has its own licensing board and a DVM must be licensed in any state in which he plans to practice. There are a few reciprocity agreements between states. Licensure involves a degree (DVM or VMD) from an accredited school plus the successful completion of written and practical examinations.

E. Animal Models

Virtually all medical research utilizes animals as models. The use of laboratory rodents, primates and some common domestic animals is well known, but there are others: armadillos are studied in genetics, immunology, reproductive physiology and electroencephalography; Peking ducks in amyloidosis and viral hepatitis; sea lions in cataract studies; woodchucks in cerebrovascular disease; pygmy goats in maternal and fetal circulation; and the chinchilla in genetics. Some medical specialties and typical animals used as models follow:

1. Pathology

Primates, domestic animals such as cattle, swine, sheep, horses, dogs and cats, laboratory rodents, birds, and fish are often used in cancer and other research of pathological processes.

2. Physiology

Primates, domestic animals, especially sheep and swine, are used in reproductive research and that involving physiological processes.

3. Epidemiology

Vector-borne diseases such as yellow fever, malaria and others have great epidemiological importance. Studies of the insect hosts as well as infected animals have led to the control of such diseases in man. Extensive programs of comparative epidemiological research involve domestic animals in the study of spontaneous occurrence of heart disease and cancer, as well as other chronic diseases.

4. Surgery

Practically all surgical techniques are developed through the use of domestic animals, such as horses, dogs, cattle or primate as models.

5. Behavior

The gamut of primates – orangutans, gibbons, monkeys, apes, etc. – is used to study behavioral patterns, but domestic animals, insects and fish have also been used.

F. Comparison of the Literature

1. General

Because the principles of human and animal medicine are the same, there is a great deal of overlap in the literature of the basic sciences. The same physiology, biochemistry, microbiology, immunology texts and periodicals, for example, are used in both curricula.

2. Comparative

Much of the monographic and serial literature of anatomy, histology, pharmacology, toxicology, parasitology and other basic sciences as well as the clinical science literature, is comparative in nature because of the interrelationships of veterinary and human medicine.

3. Specific

There is a growing body of literature, particularly in the clinical sciences, that deals predominantly with animal medicine; for example, canine cardiology, equine medicine and surgery, veterinary ophthalmology, etc. Several of these are mentioned in *Section V.*

G. Veterinary Medical Libraries

Most of the 23 schools of veterinary medicine have separate veterinary medical libraries staffed by at least one professional librarian; 13 are part of a university library system, six are part of a biomedical library, and four are separate libraries associated with the respective veterinary school. The Council on Education of the AMVA has set certain standards for library service that must be met in order for schools of veterinary medicine to be accredited. The collections and services vary considerably, in part by the absence or proximity of supporting collections in medicine and agriculture. Many of the libraries are relatively new or in the developmental stage; therefore, it is hard to determine the average collection size. The established veterinary medical libraries have collections generally in the range of 10,000 – 50,000 volumes and 500 – 1,000 serial titles.

In departmental libraries under a university library administration, financial support comes from the university library and the librarian reports to the Director of Libraries. In this case, the librarian may be fairly autonomous. Although the librarian does not report to the Dean of the Veterinary School, the library must be administered with the goals and philosophy of the school in mind. Some policies may follow those of the main library; others may deviate such as circulation periods, alumni borrowing privileges, etc. The library committee may play an advisory role only.

The library as a department within a school of veterinary medicine may have its financial support directly from the Dean. The Library committee may be actively involved in selection of books and journals and have input into major policy decisions. The librarian reports to the Dean of the school.

Budgetary statistics from the survey of the Veterinary Medical Special Interest Group (MLA) show that total expenditures for salaries and materials range from $56,000 – $200,000. Based on the current literature dealing with space and seating, the library should be able to seat 25% of the primary users (full-time students and faculty) plus 10% of the secondary users. The survey indicates that the existing range varies from 33 – 300 seats.

H. Veterinary Medical Collections in Health Sciences Libraries

The amount and orientation of the veterinary medical literature in a library of the health sciences will be dependent on the programs that are served. If a school of veterinary medicine is included in the service community, then the collection will necessarily contain most of the material to be found in a separate veterinary medical library. If a school of public health, medicine or osteopathy is included, on whose faculty are included veterinarians, appropriate veterinary medical materials should be available for their use in comparative medical programs. Libraries serving an extensive medical research program will certainly need a strong collection in laboratory animal medicine, as well as appropriate texts and periodicals on such topics as veterinary immunology, parasitology, surgery, clinical medicine, and others that may fall in the research profile. Many specialized research organizations, such as the primate research centers, have extensive veterinary medical collections.

I. Veterinary Medical Collections in Other Libraries

Libraries in industry, such as those dealing with drugs, food and feedstuffs, medical instrumentation, public health, etc., will need veterinary medical materials appropriate to their interests. Large public libraries should have materials related to veterinary public health and veterinary medicine as a career. Many agricultural libraries such as the National Agricultural Library (NAL) and the library of the National Animal Disease Laboratory will have substantial amounts

of veterinary medical literature to serve the needs of their academic or research personnel in such areas as animal production, nutrition, disease and care.

II. Indexes and Abstracts, Guides to the Literature and Other Bibliographic Tools

As mentioned before, veterinary medicine does not exist alone, but rather operates in a framework of the biomedical sciences; thus much will be available in tools used in the other biomedical sciences. Most of the tools to be discussed are now available on-line *(Section VIII)*.

A. General

1. *Index Medicus.* NLM. Monthly. $173.00. Yearly cumulations.

   Original journal articles, proceedings of conferences, symposia and selected multi-authored works are covered. There is a list of monographs indexed. Bibliography of Medical Reviews (a separate section) covers such topics as animals, laboratory, rabies, rumen, sheep, etc.

2. *Biological Abstracts.* BioSciences Information Service, 2100 Arch St., Philadelphia, PA. $1,255.00.

   Searchable by author, biosystematic index, generic index, subject index, or concept index. In the abstract section there are parts for veterinary science, parasitology, and laboratory animals that would be of particular interest.

3. *Excerpta Medica.* Amsterdam. 43 sections. Priced from $100 – $200 per section.

   Sections that might be of interest include medical microbiology, developmental biology, anatomy or physiology. Much would depend on the emphasis of a particular institution.

4. *Science Citation Index.* Institute for Scientific Information, Philadelphia, PA. Published quarterly in three parts.

   Because of the interdisciplinary nature of this publication it is of particular value through the use of its three indexes – source, permuterm and citation.

B. Specific

1. *Index Veterinarius.* Commonwealth Bureau of Animal Health, New Haw, Weybridge, Surrey KT15 3NB, U.K. $240.00.

   The Commonwealth Agricultural Bureaux (CAB) is a cooperative venture established by Commonwealth governments to provide information and other services for scientists in agriculture and related fields. CAB's abstract service is based on 24 abstract journals that scan 1,266 titles. *Index Veterinarius* is a

subject and author index to the veterinary literature of the world. It is issued monthly with an annual cumulation. A subject entry shows the English translation of the title. An author entry shows the title in the original language and a translation. Until 1971 there was a separate listing of books; now they appear under the subject entries. Annual reports are listed under the country of origin or international organization. Some entries have an abstract number which refers you to *Veterinary Bulletin* for an abstract of the item. There are also obituaries, abstracts of conference papers and chapters in books covered. The publication is very slow in indexing although the index is computerized. The 1978 cumulation arrived in September, 1979. A new thesaurus is due to be published soon. *Veterinary Subject Headings* (1972) is still useful.

2. *Veterinary Bulletin.* Commonwealth Agricultural Bureaux, Farnham House, Farnham Royal, Slough SL2 3BN, U.K. $185.00. Monthly.

   1,226 serial titles (listed in the January issue) are regularly scanned. There is one review article per month. The author and subject indexes give abstract numbers to check for the full citation. There are 25 sections – i.e. bacteriology, reproductive disorders, food inspection, book reviews and reports. The book reviews are not always very recent but give a good idea of the subject content. The book review section can be used more for retrospective acquisition.

3. *Accumulative Veterinary Index.* Index, Inc., Box 35, Arvada, CO 80001. Published annually and then cumulated every five years. $17.50.

   This publication indexes 15 U.S. and Canadian veterinary journals. The journals covered are all covered by *Index Veterinarius.* It is intended more for the practicing veterinarian than a veterinarian in a university setting.

4. *Veterinary Reference Service.* American Veterinary Publ., Santa Barbara, CA. $145.00.

   This publication is published monthly in two parts – Large Animal and Pet Practice editions. It comes in a looseleaf format and is arranged by species – dog, cat, horse, general, etc. There are lengthy abstracts of articles. The publication is cumulated every five years into a bound edition titled *Modern Veterinary Reference Series – Progress in Canine Practice, Feline Practice,* etc. In the cumulation, every five years, the items are numbered serially but have different numbers from the original publication. The topics covered are geared a bit more to the practicing veterinarian than to the researcher.

5. *Bibliography of Agriculture.* Monthly. Oryx Press, 3930 E. Camelback Rd., Phoenix, AZ 85018. $245 for monthly issues. $195 for the annual cumulation. Available in microform from University Microfilms.

This is a monthly index to the literature of agriculture as received in the National Agricultural Library. Included are journal articles, pamphlets, government documents, special reports and proceedings. There are five sections:

a. main entry – gives full bibliographic data
b. subject index – refers you to the main entry for full information
c. geographic index – an alphabetic listing of all place names which have been indexed in association with the title
d. corporate author index – lists state agricultural experiment stations and extension services with their publications
e. author index

C. Related

1. *Animal Breeding Abstracts.* Monthly. CAB L100.

   There are sections on sheep, horses, pigs, goats, laboratory mammals and poultry. The book reviews are signed. Also covered are meetings that have published proceedings, dissertations and journal articles. There is also an author index.

2. *Bibliography of Reproduction.* Reproduction Research Information Service, Ltd., 141 Newmarket Rd., Cambridge, CB5 8HA, England. Monthly. $110.00.

   This item is the official publication of the Society for the Study of Fertility (UK), Society for the Study of Reproduction (USA), Australian Society for Reproductive Biology, and Blair Bell Research Society (UK). It is a classified list of vertebrates, including man. There are 38 sections. Materials scanned for inclusion include 240 journals, *Animal Breeding Abstracts, Current Contents/Clinical Practice, Life Sciences, Index Medicus,* and *Index Veterinarius.* There is an author index and an animal index with cross references to full bibliographic information. The July and October issues have meetings of interest. The author index is not cumulated for the year.

3. *Tropical Disease Bulletin.* Bureau of Hygiene and Tropical Diseases, Keppel St., London, SC1E 7HT. Monthly. $45.00.

   There are three broad categories of abstracts – environmental health, community health, and diseases and their control. Each item has a number beginning with "1" for each year. The book reviews are signed. There is also an author index. Occasionally there is a review article.

4. *Index Catalogue of Medical and Veterinary Zoology.* Beltsville, MD. U.S. Dept. of Agriculture. Science and Education Administration.

   This was first published from 1902-1912 by the Bureau of Animal Industry by C. W. Stiles and A. Hassall in three sections – author, subject and host. The publication arose because of a need seen in the laboratory of the BAI.

The 1902 edition has works going back to 1630. The author catalog was the key to a complete citation. There have been several revisions. Beginning in 1953 a series of supplements to publish a backlog were completed. Since 1956 there are author supplements issued on an annual basis. Beginning with supplement 15, parasite subject catalogs containing indices to the author references are being issued. Now each supplement has seven parts – authors, five parasite subject-catalogs and a host catalog. The author catalog for 1978 had references going back to the late 1960's.

5. *Helminthological Abstracts.* Series A. Animal and human helminthology. Monthly. $92.00. Commonwealth Agriculture Bureaux, Farnham Royal, Slough, SL2 3BN, U.K.

   There are signed abstracts in such categories as host, taxonomy, biochemistry, life history and control. There is also an author and subject index. Published conferences and some book reviews are included.

6. *Dairy Science Abstracts.* Commonwealth Bureau of Dairy Science and Technology. Shinfield, Reading, RG2 9AT, U.K. Monthly. $130.00.

   The publication scans 1,200 journals. Some issues have a review article. The abstract section includes husbandry, technology, engineering, economics, legislations, immunology, microbiology, research and education. Patents, conferences, books, reports from government departments and international organizations are covered. There is a subject index and an author index.

D. Guides to the Monographic Literature

1. General
   a. *Medical Books and Serials in Print.* N.Y., Bowker, 1979. Yearly. $43.50.

      There are subject, author and title sections for monographs. For serials, a subject and title section is available.
   b. *U.S. National Library of Medicine Current Catalog.* Bethesda, MD. Quarterly.

      This publication encompasses citations to items cataloged during the three-month period indicated on the cover. For monographs there is a subject and name section. Serials, too, have a subject and name section. Useful subjects to consult include animal diseases, animal feed, animal husbandry, animal, zoo and veterinary medicine.

2. Specific
   a. *Comparative and Veterinary Medicine; a Guide to the Resource Literature.* Kerker, Ann and Murphy, Henry T. Madison, University of Wisconsin Press, 1973. $12.50.

Part III, "Veterinary Medicine," is particularly useful. There are sections on horses, cattle, sheep, birds, etc. covering medical aspects, breeding, nutrition and management. Part IV, "Laboratory Animals," also is helpful. Areas covered include experimental animals, primates and rodents.

E. Subject Headings

1. *Veterinary Subject Headings for Use in Index Veterinarius and Veterinary Bulletin.* CAB, Farnham Royal, England, 1979.

   This is an alphabetical list of the controlled vocabulary currently being used. Due to be published soon is *Veterinary Multilingual Thesaurus* by Verlag Dokumentation (Postfach 71 10 09, D-8000, Munchen 71, German Fed. Republic).

2. *Standard Nomenclature of Veterinary Diseases and Operations.* (SNVDO) 2nd ed. Edited by William Priester. National Cancer Institute, Bethesda, MD. 1975. DHEW Pub. No. (NIH) 76-1028.
3. *1977 Coding Supplement to SNVDO.* (NIH 77-1253).

   Diseases are classified by area of the body and by the presumed agent causing that disease. Also classified are operations by area of the body upon which the procedure was performed and by the procedure involved. The *SNVDO* assigns a unique interpretative code number to a clinically recognizable disease or operation. The *Supplement* has an alphabetic Index of Diagnoses with appropriate coding.

III. Periodical Literature

There is little need to emphasize the importance of a comprehensive but selective periodical collection in a veterinary medical library. This should include both primary and secondary source materials. The subject emphasis will be governed by the academic and research programs that it must support; however, there are certain biomedical periodicals and review journals that should be considered as a basic or core collection.

The following "Basic List of Veterinary Medical Serials, 1977, represents those titles that have been agreed upon as a core list by a committee of the Veterinary Medical Library Group of the Medical Library Association.

A. Basic List of Veterinary Medical Serials, 1977

Acta Radiol
Acta Vet Scand
*Adv Immunol
*Adv Parasitol
*Adv Vet Sci Comp Med
Am Anim Hosp Ass J

Am Ass Equine Pract
Am Heart J
Am J Anat
Am J Clin Nutr
Am J Clin Pathol
Am J Epidemiol
Am J Obstet Gynecol
Am J Ophthalmol
Am J Pathol
Am J Physiol
Am J Pub Health
Am J Roentgenol
Am J Vet Res
Am Med Ass J
Am Rev Respir Dis
Am Vet Med Ass J
Am Vet Radiol Soc J
Anat Rec
Anesthesiology
Anim Blood Groups Biochem Genet
Ann Intern Med
Ann Surg
Arch Dermatol
Arch Ophthalmol
Arch Pathol Lab Med
Auburn Vet
Audiovisual Comm
Aust Vet J
Avian Dis
Berl Munch Tieraerzetl Wochenschr
Biken J
Biol Photogr Ass J
Biol Reprod
Blood
Bloodhorse
Bovine Pract
Br J Anaesth
Br J Haematol
Br J Radiol
Br Med J
Br Vet J
Calif Vet
Can J Comp Med
Can Vet J
Cancer
Canine Pract
CDC Vet Public Health Notes
Circulation
Circ Res
Cornell Vet
Dtsch Tieraerztl Wochenschr
Endocrinology
Epizootic Dis Africa
Equine Vet J
Exp Mol Pathol
Exp Parasitol
Feline Pract
Fed Proc
Fertil Steril
*Gaines Vet Sym
Gastroenterology
Hoard's Dairyman
Indian Vet J
Infect Immun
Int J Zoonoses
Int Off Epizootics Bull
*Int Rev Cytol
*Int Zoo Yearbook
Irish Vet J
Jpn J Vet Res
J Allergy Clin Immunol
J Anat
J Anim Sci
J Appl Physiol
J Bacteriol
J Biol Chem
J Bone Joint Surg (Am)
J Bone Joint Surg (Br)
J Clin Endocrinol Metab
J Clin Invest
J Clin Pathol
J Comp Pathol
J Dairy Sci
J Exp Med
J Histochem Cytochem
J Hyg

J Immunol
J Infec Dis
J Lab Clin Med
J Med Educ
J Morphol
J Nutr
J Parasitol
J Pathol
J Pediatr
J Physiol
J Reprod Fert
J Small Animal Pract
J Surg Oncol
J Surg Res
J Thoracic Cardiovasc Surg
J Ultrastruct Res
J Urol
J Vet Med Educ
J Virol
J Wildl Dis
J Zoo Anim Med
Kleintier-prax
Lab Anim Sci
Lab Anim
Lab Invest
Lancet
Med Biol Illus
Med Instrum
Med Radiogr Photogr
*Microbiol Rev
Mod Vet Pract
Mschr Vet Med
Natl Acad Sci Pub
Natl Inst Anim Health Q
Nature
Netherlands J Vet Sci (ceased publ. v.5, 1972)
N Engl J Med
*NY Acad Sci Ann
NZ Vet J
Nippon Juigaku Zasshi
Nord Vet Med
Obstet Gynecol
Onderstepoort J Vet Res
Pan Am San Bur Sci Pub
Pediatrics
*Physiol Rev
Postgrad Med J
Postgrad Med
Poult Sci
Radiol Techol
Radiology
Rec Med Vet
Refuah Vet
Res Vet Sci
Rev Med Vet
Royal Soc Trop Med Hyg Trans
Science
Soc Exp Biol Med Proc
South African Vet Med Ass J
Southwestern Vet
Stain Technol
Surgery
Surg Gynecol Obstet
Theriogenol
Tieraerztl Prax
Tissue Cell
Trop Anim Health Prod
U.S. Agri Res. Ser. Anim Health Div. Anim Mor Rep.
U.S. Agri Res Ser. Anim Health Div. Dis Con Ser Act.
U.S. Anim Health Ass Proc
U.S. Natl Cancer Inst J
U.S. Center Dis Con. Zoo Surveillance
Vet Human Toxicol
Vet Ann
*Vet Clin North Am
Small Animal Practice
Large Animal Practice
Vet Ec
*Vet Med Rev
Vet Med Small Anim Clin
Virology
WHO Bull

WHO Chron
WHO Tech Rep Ser
Wildl Dis
Vet Parasitol
Vet Pathol
Vet Public Health
Vet Rec
World Anim Rev
World Vet Con
Z Parasitenkd
Zbl Vet Med

The starred titles are review serials which are secondary information sources presenting articles that review, synthesize, survey and in some cases, evaluate the "state of the art" of a unique and timely segment of a specialized subject area. Normally they will include extensive bibliographies.

Since the list was compiled, several new titles have become available. These and a few older titles are being considered for inclusion in a forthcoming revision of the Basic List. This supplementary list follows:

Animal Regulation Studies
Australian Veterinary Practitioner
Avian Pathology
Comparative Immunology, Microbiology and Infectious Diseases
Compendium on Continuing Education for the Practicing Veterinarian
Equine Practice
Equus
Historia Medicinae Veterinariae
International Journal for the Study of Animal Problems
Journal of Clinical Microbiology
Journal of Fish Diseases
Journal of Medical Virology
Journal of Veterinary Orthopedics
Journal of Veterinary Pharmacology and Therapeutics
Methods: the Journal of Animal Health Technology
Veterinary Anaesthesia
Veterinary Clinical Pathology
Veterinary History
Veterinary Immunology and Immunopathology
Veterinary Microbiology
Veterinary Quarterly
Veterinary Science Communications
Veterinary Surgery

B. Specific Titles

Time does not allow consideration of many of the above titles in any depth, however, it may be helpful to make some comments about the following:

1. *American Veterinary Medical Association, Journal*

   The semi-monthly official publication of the American Veterinary Medical Association. Each issue contains several scientific articles, clinical reports and short items that are geared primarily to the needs of the practicing veterinarian. The *Journal* also serves as a news organ for the profession, carrying Washington news, Association news, notices of new biological products and drugs, as well as announcements of continuing education courses, forthcoming meetings and various education opportunities.

2. *American Journal of Veterinary Research*

   A monthly journal published by the American Veterinary Medical Association under the auspices of the AVMA Council on Research. It reports the results of current research in veterinary medicine and is of particular interest to biomedical research personnel. Each issue contains several scientific articles (usually 20-25) as well as selected reports and notes. There are very few announcements although a few forthcoming meetings are noted as well as notices of certification examinations.

3. *Veterinary Record*

   An outstanding weekly publication which is the journal of the British Veterinary Association. In addition to scholarly papers and articles, there are short communications, news and reports, and many letters from members of the profession; some of which carry up-to-date information about unusual cases, treatments, tests, etc. There are official announcements of association concern.

C. Cognate Serial Collection

Each veterinary medical library will have periodical titles that will be dictated by its academic and/or research interests. The collection will be influenced also by the availability or lack of such necessary resources in other libraries in the institution, be it academic or research. Some areas that need to be considered in this context are:

1. Agriculture – including animal production, care, nutrition and reproduction.

2. Biological Sciences – including anatomy, embryology and histology, biochemistry, botany (poisonous plants), genetics, hematology, microbiology, parasitology, pharmacology, and physiology (including endocrinology and zoology).

3. Clinical Medical Sciences – including cardiology, gastroenterology, pathology, radiology, surgery and urology.

4. Engineering – including bioengineering and instrumentation.

IV. Reference Materials

The materials included are those which is felt will be useful in a veterinary medical library, as well as pertinent for a non-veterinary, biomedical setting. Items starred (*) should be considered the most useful ones. Again, the particular orientation of the school, institution or organization will determine what should be purchased. For an institution strong in parasitology, Griffith's *Handbook of Veterinary Parasitology* (D-1) would be essential. A life sciences or biology collection would find Grizmek's *Animal Life Encyclopedia* (C-2) extremely useful. If any work is being done on animal models of human disease, the Altman book (D-3) should be considered.

Tracking down veterinary pharmaceuticals and biologicals can be extremely difficult and time-consuming. A few veterinary pharmacopeias are mentioned. They will not be used in isolation, but perhaps along with *The Pharmacopeia of the United States* (USP) or Martindale's *Extra Pharmacopoeia.*

A. Directories

1. Associations
   a. **A VMA Directory.* American Veterinary Medical Association, Schaumburg, IL 60196. Published biennially. $25.00.

      American Veterinary Medical Association members in the U.S., Canada and foreign countries are listed. Certain non-member veterinarians are included. There is an alphabetic section which gives full name, membership status, city and state. The geographic section gives the school and year of graduation, a specialty code, and type of employer. A breakdown by numbers working in various branches of veterinary medicine is given. AVMA officers, past presidents and locations of World Veterinary Congresses since 1863 are included. State animal disease control officers, meat and poultry inspectors, state extension services, organization of the military veterinary services, addresses of national and international veterinary associations, deans of schools of veterinary medicine, specialty boards, accredited schools, lists of extinct colleges of veterinary medicine, veterinary colleges of the world, and digests of veterinary practice acts by state are also listed.

   b. *Royal College of Veterinary Surgeons, 1977-78.* 32 Belgrave Square, London SW1X 8QP.

      Listed are members with their degrees, addresses and phone numbers. The listing is comprised of Commonwealth members from Australia, Scotland, Ireland, South Africa, Tasmania, Botswana, India and Hong Kong. Animal welfare societies in England are also covered.

c. Other association directories include those of state associations and specialty groups, such as the American Association of Equine Practitioners (AAEP) and the American Animal Hospital Association (AAHA).

2. Other Directories

a. **World Directory of Veterinary Schools.* Geneva, WHO, 1974.

This is an alphabetical list by country. Given is the number of veterinarians in the country, number of veterinary schools and livestock numbers. There are descriptions of school administration, admission requirements, curriculum, examinations, license to practice, enrollment and fees.

b. *World Directory of Schools for Animal Health Assistants,* 1971. Geneva, WHO, 1974.

The schools in 52 countries are listed along with a general description of the training. The information is based on answers to a questionnaire designed by FAO and distributed to schools by their governments. Included are addresses, enrollments, admissions, graduates, fees and number of livestock per country.

c. *Zoological Parks and Aquariums in the Americas, 1978-79.* American Association of Zoological Parks and Aquariums, Oglebay Park, Wheeling, WV 26003. $15.00.

Lists member institutions in the U.S., Canada and some foreign countries. Gives ownership status, hours, fees, numbers and kinds of specimens, and professionals on the staff. There is a list by state and a personal name list.

d. **Animals for Research; a directory of suppliers,* 9th ed. Washington, DC, National Research Council, 1975.

Sources of supply are listed for ducks, chickens, turkeys, geese, rabbits, mice, hamsters, gerbils, dogs, cats, goats and uncommon laboratory animals. Also listed are sources of serum, blood, tissues and organs.

e. **Animal Resources: A research resource directory.* Washington, DC, National Institutes of Health, Division of Research Resources, 1978. DHEW Pub. No. (NIH 79-1431).

This is a guide for scientists seeking assistance and collaboration involving animals in health research. The work details different resources, giving the names of principle investigators, addresses, phone numbers and areas of research. There is a geographic index where resources are listed alphabetically by state. Primate research centers are listed along with animal diagnostic laboratories.

B. Biographical Tools

1. *American Men and Women of Science – Agricultural, Animal and Veterinary Sciences 1974.* ed. by Jaques Cattell Press, R. R. Bowker.

Listed are 14,200 entries from *American Men and Women of Science* 12th ed. There is an alphabetic name section, giving birthdate and location, marital status, academic degrees, fields of interest, and positions. There is also a geographical section and a discipline index.

C. Dictionaries and Encyclopedias

1. *International Encyclopedia of Veterinary Medicine.* ed. by Thomas Dalling. Edinburgh, W. Green and Sons, Ltd., 1966.

   "Comprehensive publication . . . on subjects of veterinary interest and importance . . . in a concise form." The articles are signed. There is an alphabetical arrangement of subject, cross reference and synonyms. There are no references to the literature within the body of an entry, but there is a short list of suggested readings. According to the editor, this work would be particularly useful in developing countries. Listed are diseases, surgical techniques and such items as how to construct an abbattoir.

2. **Grizmek's Animal Life Encyclopedia.* ed. by Bernhard Grizmek, NY, Van Nostrand Reinholt, 1974.

   This set encompasses 13 volumes covering lower animals to mammals. It is extensively illustrated in color and black and shite. Type of information given about an animal might include length and weight, dental formula, geographical range, mating habits, size of litter and rearing of young.

3. **Black's Veterinary Dictionary,* 12th ed., ed. by Geoffrey P. West. London, Adam & Charles Black, 1976. $21.00.

   This is a mini-encyclopedia. It is an alphabetical listing of anatomical terms, general categories of drugs, diseases and treatment. The coverage of subject matter is quite unequal: there may be pages of material on the "foot of the horse" and one line on "rida," a disease of sheep involving the nervous system. Cross-references abound. Common names of animals are given with a cross reference to the scientific name.

D. Handbooks

1. Griffiths, Henry J. *A Handbook of Veterinary Parasitology: Domestic Animals of North America.* Minneapolis, University of Minnesota Press, 1978. $20.00.

   The book is designed to be a concise reference work for retrieving factual material. Parasites are listed alphabetically by scientific name within phylum or class. (Some common names are used.) For each parasite the given information includes habitat, distribution, life cycle, transmission, disease signs, pathogenicity, diagnosis and control. Some references to texts and/or journals are

given. Appendices include laboratory diagnostic procedures and parasites arranged by hosts. A glossary is included.

2. **Laboratory Primate Handbook.* Whitney, R. A. NY, Academic Press, 1973. $15.75.

   Information is given on procurement, husbandry, primates commonly used with Latin names, classification of living primates, endangered species, housing, restraint (anesthesia, chemical restraint, and physical restraint), specimen collection, nutrition, diseases, and physiological data. Primate research centers are listed. The work is well illustrated and a list of suggested readings is included.

3. *Inbred and Genetically Defined Strains of Laboratory Animals,* Part I. Mouse and Rat. ed. by Philip Altman and Dorothy Dittmer Katz. FASEB, 1979. $65.00. Biological Handbooks III Series.

   This item would be useful for geneticists and those working on tumor growth, tissue transplantation, host defense and drug responsiveness. There is a list of holders and addresses for obtaining animal strains. There are many tables of inbred strains – genes carried and characteristics. The tables cover mutations on inbred strains, chromosomal aberrations and mutations, reproduction and growth characteristics of strains, biochemical variations, and incidence of various tumors. There are also lists of strains of wild mice and loci with unusual alleles. Every table is completely documented.

4. *Handbook of Veterinary Procedures and Emergency Treatment.* 2nd ed., ed. by Robert W. Kirk and Stephen I. Bistner. Philadelphia, Saunders, 1975. $18.00.

   Described is initial emergency care and evaluation. Emergency treatment of specific conditions is given. There is a chapter on interpreting signs of disease – fever, coma and anemia. Clinical procedures are detailed – collecting blood, bone marrow, cerebrospinal fluid, urine and administering medication. Interpretation of laboratory tests is discussed. Normal blood values in mammals are also given.

5. *Handbook of Veterinary Surgical Instruments and Glossary of Surgical Terms.* L. Hurov. Philadelphia, Saunders, 1978. $18.75.

   The book is divided into two sections: a) instruments are shown in illustration, distributors are listed, and how to clean them is detailed, and b) Glossary – terms related to surgery.

6. Cottral, George E. *Manual of Standardized Methods for Veterinary Microbiology.* Ithaca, NY, Cornell University Press, 1978. $35.00.

Pt. 1: Laboratory Safety – list of main zoonoses (animal diseases transmissible to man), USPHA classification of disease agents based on human risk involved and laboratory safety measures required (5 classes), and laboratory design based on risk involved with a particular micro-organism.

How to collect specimens.

Biologic test systems – how to (a) cultivate pathogens in embryonating avian eggs, (b) cultivate pathogens in tissue culture.

Description of serology tests used.

Description of preservation and inactivation of micro-organisms.

Description of biochemical, biophysical and histochemical tests used to determine different types of viral agents.

Pt. 2: Virology – description of viruses, how to take specimens, and laboratory procedures.

Pt. 3: Bacteriology – description of bacteria, how to take specimens, and laboratory procedures.

Pt. 4: Mycology.

Pt. 5: Appendices – lists media and reagents.

7. **CRC Handbook Series in Nutrition and Food. Section G, Diets, Culture Media, Food Supplements.* Cleveland, CRC Press, 1977.

   Vol. I: Diets for Mammals. Breaks mammals down by class; gives basal metabolism and maintenance energy requirements for adult, pregnant animal and growing pup. Lists vitamins, proteins, fats and inorganic minerals needed. Well documented. Describes synthetic diets for zoo animals.

   Vol. II: Food habits of and diets for invertebrates and vertebrates – zoo diets.

8. Rosoff, Irving S. *Handbook of Veterinary Drugs.* New York, Springer, 1974. $48.50.

   Body of text is an alphabetic listing of generic, USAN, chemical or common name. For each item gives synonyms, class of drug, use warnings and dosages. If drug is not in body of book, index has 4,000 additional trade and chemical names with cross references.

9. *British Veterinary Codex,* 1965 and *Supplement,* 1970. London, Pharmaceutical Press, 1965, 1970.

   Pt. 1: Monographs – chemical structure, chemical formula, synonyms, physical form, melting point, solubility, standard, action and use, toxicity, storage, and dose.

   Pt. 2: Vaccines, antisera and related products – gives standards, identification, storage, action and use, and dose.

   Pt. 3: Formulary – creams, powders, injections and tinctures.

   Appendix: Lists pharmaceutical adjuvents (substances of no medicinal value but used in some preparations). There is a list of additional synonyms given in the back.

10. **The Complete Desk Reference of Veterinary Pharmaceuticals and Biologicals.* 1978-79. (VP & B). ed. by Carl E. Aronson. Media, PA, Harwall Publishing, 1978. $42.50.

Arranged in 18 sections. First three sections similar to the PDR – alphabetical list of products, alphabetical list of products by manufacturer and product identification. There are separate indices and product information sections for biologicals for small animals, large animals, poultry, parasiticides, nutritional supplements, diagnostic aids and equipment. The appendix tells who must and how to register with the Drug Enforcement Administration, and lists schedules of Controlled Substances. There is also a guide to common poisonous plants and treatments.

V. Core Texts

The materials that comprise the core text section for a veterinary medical library resemble those for a medical school library because the divisions that are used (anatomy, physiology, etc.) are similar. Additionally, veterinary medical students use basic medical texts such as *Gray's Anatomy*, along with texts like Sisson and Grossman's *Anatomy of the Domestic Animals.* They are not expected to be proficient in human medicine; however, veterinary medicine is studied in many areas in its relationship to human medicine. Veterinary medicine has proliferated in specialties and subspecialties (epidemiology, oncology, ophthalmology, radiology, etc.), as has human medicine. The texts included are not the only ones in their respective fields but are some of those most commonly used.

A. Anatomy

1. Getty. R. *Sisson and Grossman's Anatomy of the Domestic Animals.* 2v. 5th ed. Philadelphia, Saunders, 1975. v.1, $31.74. v.2, $22.50.

There is a general section which describes the systematic approach used – the body is regarded as consisting of systems of organs similar in origin and structure and associated in the performance of certain functions. The divisions of systematic anatomy are:

a. osteology – description of the skeleton
b. syndesmology – description of the joints
c. myology – description of the muscles
d. splanchnology – description of the viscera
e. angiology – description of the organs of circulation
f. neurology – nervous system
g. sensory organs
h. common integument – skin

Species covered include equine, bovine, porcine, canine, feline and aves.

B. Histology

1. Dellman, Horst-Dieter and Brown, Esther M. *Textbook of Veterinary Histology*. Philadelphia, Lea & Febiger, 1976. $19.50.

   This work covers microscopic veterinary anatomy (cells and the minute structure of tissues and organs). The work is divided into systems – nervous, cardiovascular, respiratory, digestive, etc.

C. Physiology

1. Breazile, J. E., ed. *Textbook of Veterinary Physiology*. Philadelphia, Lea & Febiger, 1971. $22.50.

   There are sections on cell biology, nerves and muscles, blood, cardiac physiology, fluids, electrolytes and renal physiology, respiration, gastrointestinal physiology, metabolism, endocrine system, reproductive system, physiology of skin, bone, and cartilage. Only domestic animals are covered.

2. Swenson, J. J., ed. *Duke's Physiology of Domestic Animals*, 9th ed. Ithaca, NY, Cornell University Press, 1977. $32.50.

   The chapters are divided into systems (respiratory, digestive, etc.). Phsyiological data are interspersed and a specific bit of information may be difficult to encounter.

D. Internal Medicine

1. Ettinger, S. J., ed. *Textbook of Veterinary Internal Medicine; Diseases of the Dog and Cat*. 2v. Philadelphia, Saunders, 1975. $37.50.

   Emphasis is placed on describing internal disorders in detail. Clinical descriptions of each disease and approaches to therapy are provided. Surgical corrections are described briefly. It is well documented and illustrated. Problem-oriented veterinary medicine, environmental factors in disease, oncology, infectious diseases, systematic diseases and immunology are covered.

2. Blood, D. C. and Henderson, J. A. *Veterinary Medicine*, 5th ed. Philadelphia, Lea & Febiger, 1979. $46.00.

   This is a text of the diseases of cattle, sheep, pigs and horses. Two main sections cover: (a) General medicine – diagnosis, therapy and systemic diseases, and (b) Special medicine – bacterial and viral diseases, and diseases caused by chemical agents. The sections are well documented.

E. Laboratory Medicine

1. Duncan, J. and Prass, K. W. *Veterinary Laboratory Medicine: Clinical Pathology*. Ames, IA, Iowa State University Press, 1977. $10.75.

"The primary focus of the book is to relate abnormalities identified by laboratory procedures to organ dysfunction . . . General disease process and their mechanisms are discussed. The interpretive aspects of laboratory medicine are stressed." Numerous tables of normal values are very helpful.

F. Radiology

1. Gillette, E. L., et al. *Carlson's Veterinary Radiology*, 3rd ed. Philadelphia, Lea & Febiger, 1977. $28.50.

   Covered are radiographic principles, as well as interpretation of results for large and small animals. There are sections on normal anatomy and positioning, radiographic pathology, therapeutic radiology and nuclear medicine.

G. Surgery

1. Bojrab, M. J. *Current Techniques in Small Animal Surgery*. Philadelphia, Lea & Febiger, 1975. $42.50.

   This work is divided into two parts: (a) soft tissues, and (b) bones and joints. The parts are subdivided into body systems. Discussed are such areas as pre-operative treatment, surgical techniques and post-operative care. The text is well illustrated.

2. Oehme, F. W. and Prier, J. E., eds. *Textbook of Large Animal Surgery*. Baltimore, Williams and Wilkins, 1974. $33.00.

   The text is intended for the student as well as the practitioner. Covered are suture techniques, surgical restraint, anesthesia, operations performed on various body systems, and post-operative care. Fairly well illustrated.

H. Zoo and Wild Animal Medicine

1. Fowler, J. E., ed. *Zoo and Wild Animal Medicine*. Philadelphia, Saunders, 1978. $59.50.

   Nutrition, feeding practices, restraint, disease description, clinical pathology and reproduction are covered, as well as preventive medicine and stress. Useful physiological data is available. A list of sources for equipment and supplies mentioned in the text are listed.

I. Endocrinology

1. McDonald, L. E. *Veterinary Endocrinology and Reproduction*, 2nd ed. Philadelphia, Lea & Febiger, 1975. $25.00.

   This work is designed to serve as a textbook. Each chapter begins with an outline. Most examples used are domestic animals; occasionally primates or

laboratory animals are used. Chapters cover individual glands, male and female reproductive systems, and patterns of reproduction, artificial insemination, lactation and physiology of the newborn animal. Useful tables of normal values are given.

J. Pathology

1. Benirschke, K., et. al. *Pathology of Laboratory Animals*, 2v., NY, Springer, 1978. $260.00.

   A cumulation of current information in the pathologic aspects of diseases of laboratory animals. The arrangement is by system in vol. 1. Vol. 2 covers tumors, immunopathology, hereditary diseases, nutritional diseases, metabolic diseases, and viral and bacterial diseases. The text is extensively illustrated including microscopic sections. The index is very specific, searchable by species, disease, organ or other appropriate headings. There is a large section of clinical biochemistry values for laboratory animals.

K. Parasitology

1. Soulsby, E. J. L. *Textbook of Veterinary Clinical Parasitology, v.1: Helminths.* Philadelphia, F. A. Davis, 1965.

   Stressed are developmental cycles, epidemiology, immune response, treatment and control. Covered are nematodes, cestodes and trematodes of cats, dogs, pigs, sheep, goats, cattle, horses and poultry. The appendix has a Host Helminth List for man, horse, cattle, sheep, deer, pig, cat, dog, fox, wolf, coyote, mink and poultry.

L. Obstetrics

1. Cole, H. H. and Cupp, P. T., eds. *Reproduction in Domestic Animals*, 3rd ed. NY, Academic Press, 1977. $47.00.

   Sections covered include hormones and biochemistry of reproduction, artificial insemination and lactation. There are also chapters on specific animals.

M. Anesthesiology

1. Klide, A. M. and Kung, Shiu H. *Veterinary Acupuncture*. University of Pennsylvania Press, 1977. $35.00.

   The areas covered include principles of traditional Chinese veterinary medicine, animal acupuncture points, techniques and equipment, physiology, therapy and the history of veterinary acupuncture, as well as its status in the U.S.

2. Lumb, W. V. and Jones, E. *Veterinary Anesthesia.* Philadelphia, Lea & Febiger, 1973. $29.50.

   Covers facilities, equipment and personnel. There is a discussion of types of anesthesia – general, inhalation, barbituates, muscle relaxants, local, nerve blocks and spinal. Included are laboratory and zoo animals. There is a section on euthanasia – the advantages and disadvantages of various methods. An appendix gives sources for drugs and equipment.

N. Immunology

1. Tizard, I. R. *An Introduction to Veterinary Immunology.* Philadelphia, Lea & Febiger, 1977. $19.00.

   The basic text is in three sections: (a) biological basis of the immune response, (b) role of the immune response in resistance of infectious disease, and (c) diseases of immunological origin.

O. Epidemiology

1. Schwabe, C. W., et al. *Epidemiology in Veterinary Practice.* Philadelphia, Lea & Febiger, 1977. $17.50.

   This work covers the scope of epidemiology, diseases in populations, ecological and mathematical approaches, environmental determinants of disease, and epidemiological models.

P. Oncology

1. Theilen, G. H. *Veterinary Cancer Medicine.* Philadelphia, Lea & Febiger, 1979. $39.50.

   The subject is presented from the point of view of the application to clinical veterinary medicine. Covered is the natural history of neoplasms, diagnosis and management in the dog, cat, horse, and cow. There are separate chapters on tumors in zoo animals and wildlife.

Q. Pharmacology

1. Jones, L. M., et. al. *Veterinary Pharmacology and Therapeutics,* 4th ed. Ames, IA, Iowa State University Press, 1977. $60.00.

   Discussed is the mechanism of action of drugs by the various systems. There are several sections on chemotherapy of microbial, fungal, viral and parasitic diseases. Also covered are veterinary toxicology and euthanizing agents. A short section on "Drug Standards and Regulations" is useful. Of current interest is a chapter on chemical residues in the edible tissues of animals.

VI. Federal and State Resources

The resources covered in this section are intended only as a brief guide. Specific publications mentioned are useful sources for keeping abreast of current federal legislation and/or legislation in progress that is of interest to the veterinary medical profession. Most of the publications are broad in coverage. It should be remembered that each state has its own set of statutes that have been codified.

A. Bibliographic Guides to Documents

1. *Congressional Information Services: CIS Index.* v.1-, 1970-. CIS, Inc., 7101 Wisconsin Ave., Washington, DC 20014. Monthly.

   Offers brief abstracts of committee hearings, and House and Senate documents and reports. There is an index of subjects and names including names of witnesses at hearings. Also included is an index of bill, report and document numbers, and an index of committee and subcommittee chairmen. The data file is machine readable and available on-line.

2. *Index to Current Urban Documents.* v.1-, 1972-. Westport, CT, Greenwood Press. Quarterly.

   This work indexes county documents and documents of large cities in the U.S. and Canada. The emphasis is on documents concerned with social, political, economic and public administration matters. There is a geographic listing by city or county and a subject index. This might be of use in surveying existing animal regulation laws of large municipalities.

B. Legislative and Executive Information

1. *CIS Index* (see above)

2. *Code of Federal Regulations* (CFR). Available from Superintendent of Documents, Washington, DC.

   This set of volumes is a codification of general and permanent rules published in the *Federal Register* by Executive departments and agencies of the federal government. The Code is divided into 50 titles. The CFR is kept up to date by the current issues of the *Federal Register.* Each volume of the Code is revised once each calendar year. Sections of interest include Title 9 – Animals and Animal Products, Title 21 – Food and Drugs, Title 42 – Public Health, and Title 43 – Public Welfare (HEW).

C. Specific Publications

1. *FDA Veterinarian.* Industry Information Branch, Bureau of Veterinary Medicine, Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857. (Formerly *Animal Drug Memo*). Monthly. Free.

Covers issues related to the testing of new drugs, testing of possible carcinogenic drugs, additives, new drug approvals, repealed drugs, medicated feeds, public hearings being held, FDA regulations and amendments.

2. *CDC Veterinary Public Health Notes.* Bureau of Epidemiology, CDC, Atlanta, GA 30333. Monthly. Free.

   Often this work will abstract items from other sources. It covers reports of diseases transmitted from animal to man, such as rabies, trichinosis, etc.; also viral, bacterial and parasitic diseases. News items of interest include pertinent state laws, Food and Drug Administration actions, and general public health-related notices of importance to veterinarians.

3. *MMWR: Morbidity and Mortality Weekly Report.* CDC, Atlanta, GA 30333. Weekly. Free.

   This publication lists figures for notifiable diseases for a given week. It reports outbreaks, environmental hazards and other public health problems. There are annual surveillance reports compiled at the end of the year, such as *Brucellosis in the United States,* 1978.

4. *American Veterinary Medical Association. Journal.* (JAVMA). Schaumburg, IL. Bi-weekly. $36.00/yr.

   The pertinent section is the "News" section. In it are covered appointments to federal agencies related to veterinary medicine, notices in the *Federal Register,* court rulings, disease eradication programs, etc. In addition, the "News from Washington" section covers federal news of interest to the profession, lawsuits, bills in committee and appropriations. A third section to watch is "New Veterinary Biological Products," listing new drugs and biologics licensed by FDA. Entries include the name of the new item, the producer, species for which use is intended, indications for user, and the routes of administration.

VII. Conferences, Proceedings, Dissertations, Translations

Notices of conferences and publication of their proceedings present challenges to the librarian. Determining if they have been published can be difficult, especially foreign proceedings. The first four items in this group are good sources of information, but the indexing in CAB publications is quite slow and there may be a time lag. ISI's new publication (no. 11) looks quite promising as a useful tool for verification. The British Library Lending Division's *Index* (no. 12) is good for verification and location.

The translation sources listed are standard ones and not always very useful. Obtaining translations and dissertations is also difficult; dissertations must be published in the open literature, and may appear under a slightly different title.

A. Bibliographic Sources

1. *Index Veterinarius*

   Covers abstracts of conference papers and European dissertations of general veterinary medical interest. They are very slow in indexing items.

2. *Animal Breeding Abstracts*

   Lists meetings in this subject field that have published proceedings and also lists dissertations.

3. *Helminthological Abstracts*

   Includes published conference proceedings of interest to parasitology.

4. *Dairy Science Abstracts*

   Lists published proceedings of conferences in the dairy field.

5. *NLM Current Catalog*

   This item is useful for the proceedings in basic medical sciences and clinical medicine, in addition to having some veterinary medical citations.

6. *Bibliography of Agriculture*

   Monthly index to the literature of agriculture as received in the National Agricultural Library. This tool is good for verification and location.

7. *Dissertation Abstracts International* (formerly *Dissertation Abstracts*). University Microfilms. 1938-, v.1-. Monthly.

   Doctoral dissertations submitted by over 240 cooperating universities are microfilmed. The main section of this work has abstracts of theses arranged by subject field. Beginning with v.27, the work is in two parts – humanities and sciences.

8. *Comprehensive Dissertations Index*. University Microfilms.

   This publication attempts to list all dissertations accepted at American Universities. Within a subject area, there are keywords in alphabetical order; under each keyword are listed all dissertations having that word in the title. When appropriate, the user is referred to *Dissertation Abstracts International.*

9. *Directory of Published Proceedings*. Series SEMT. v.1-, 1965-. White Plains, NY, InterDok Corp. Monthly. Annual cumulation.

   This is a directory of preprints, published proceedings of congresses, conferences and symposia. The arrangement is chronological by date of conference. There are keyword, sponsor and title indexes.

10. *Proceedings in Print.* v.1-, 1964-. Box 247, Mattapan, MA 02126.

This is an index to conference proceedings in all subject areas in all languages. Pt. 1: current entries (last two years). Pt. 2: retrospective entries. Each conference is under its unique title; not "Conference, Symposium on . . .". A single index includes corporate authors, sponsoring agencies and editors. There is a cumulative index at the end of the year.

11. **Index to Scientific and Technical Proceedings,* ISTP. ISI, Philadelphia, PA. v.1-, 1979-. $500.00.

The main section gives complete bibliographic information. All other indexes lead to the main section. This is a multi-disciplinary work that indexes published proceedings. The work can be used for current awareness, bibliographic verification, retrospective searching or acquisitions. There is a category index using broad headings, permuterm subject index indicating every significant word in the title, sponsor index, author/editor and a location index.

12. *Index of Conference Proceedings.* British Library Lending Division. 1966-.

This is an index of keywords in titles for identifying conferences. Items cited are held by the BLLD. Excellent for veterinary proceedings.

13. *Translations Register Index.* Chicago, Translation Center, 1967-.

The main index is by journal citation or patent citation. A subject index is also available with broad categories, i.e. animal husbandry.

14. *World Index of Scientific Translations,* Delft, European Translations Center, 1967-.

a. Lists available translations from East European and Asiatic languages into *western languages.* Covers articles, patents and standards. Arranged by title of original publication; for serials it lists title, volume, part and page number. Gives entry number on "List"; gives full bibliographic information on translation. "List" is arranged in general subject sequence by COSATI numbers (02=Agriculture).

b. List of Translations notified to ETC announces monthly acquisitions of translations with complete bibliographical citations.

15. *Transdex Index*

This is a bibliography and index to U.S. Joint Publications Research Service (JPRS) translations, including translations of articles and books. Contains serial/monograph listings and Ad. Hoc. Titles Index, Country Index, Subject Index, Publications Index (by title of monograph), and Bibliographical Listing with the section sequenced by JPRS numbers. Translations available on microfilm/fiche. A given fiche will have several items in same general area, i.e. Translation on Eastern Europe: Scientific Affairs (10-12 items).

16. *Index Translationum.* Geneva, UNESCO.

Covers books published in 61 member states. Bibliography arranged by country name (in French) and subjects arranged by the 10 major headings of UDC. Index by principal author refers to country code and entry number. Entries include principal author, title of translation, name of translator, place of publication, year, language and title of original work.

B. Collection Resources

1. Translation Center. John Crerar Library, Chicago.

This is a depository for unpublished translations *into English* from the literature of the natural, physical, medical and social sciences. NTIS, scientific societies, special libraries, colleges and government agencies send their translations to the Center. Their publication is the *Translation Register Index.*

2. Center for Research Libraries. Chicago.

The Center is a non-profit institution operated and maintained by the member institutions. It acquires directly by purchase, exchange or gift, materials not in a member's own collection. The Center will provide any *foreign* doctoral dissertation; if they do not have it, it will be ordered from the institution where the degree was granted.

VIII. Computer Searches

As in any computerized literature search, the development of a well-defined search strategy is paramount in veterinary medicine. The most appropriate data base or bases should be selected prior to going on-line and definitive search terms and concepts identified. No attempt will be made in this chapter to cover philosophical or general concerns of computer storage and retrieval of information; nor will any instruction be given in the use of hardware. This information is available from vendors, continuing education courses, workshops, institutes and the information retrieval literature. This chapter will attempt to give some specifics that may be helpful in selecting data bases and search terms for questions relating to veterinary medicine.

A. Data Bases – A Selective List

Some data bases that are particularly appropriate are:

1. AGRICOLA (National Agricultural Library; formerly CAIN)

This is useful in answering questions from veterinary practitioners because of the coverage of experiment station literature, general veterinary and agricultural periodicals, and clinical studies. Items included in the file are in the collection of NAL, therefore, that data base can be used as a locator tool also.

2. MEDLINE and its related files (National Library of Medicine)

   This data base is a good source of information for veterinary medical, academic and research personnel. TOXLINE is especially helpful for veterinary medical and animal model drug studies. CANCERLINE and CANCERLIT are very useful in pathological studies.

3. BIOSIS PREVIEWS (BioSciences Information Service)

   This file is particularly important for veterinary medical research because of its very comprehensive and detailed coverage of the world's biomedical literature. It is useful for information on exotic animals, plants, bacteria, viruses, etc.

4. CAB (Commonwealth Agricultural Bureaux)

   This data base contains citations from the indexes and abstracts produced by CAB, but is particularly useful because of its coverage of the veterinary literature in *Index Veterinarius* and *Veterinary Bulletin,* as well as in *Nutrition Abstracts and Reviews, Animal Breeding Abstracts* and *Dairy Science Abstracts.*

Additional data bases which may be of value in veterinary medical searches are:

Aquatic Sciences and Fisheries Abstracts
CRIS (Current Research Information System – U.S.D.A.)
Enviroline
Excerpta Medica
International Pharmaceutical Abstracts
Pharmaceutical News Index
Psychological Abstracts

Other data bases may have limited usefulness in specific circumstances dictated by the programs of the institutions.

B. Species Terms

While it is impossible to delineate subject terms and concepts for the wide variety of questions that may be presented, it may be helpful to outline some species terms that can be combined with appropriate subject terms and concepts to achieve as effective retrieval as possible.

Feline	Canine	Porcine	Bovine	Equine	Ovine & Caprine	Avian
cat?	dog?	swine	cattle	horse?	sheep	bird?
kitten?	bitch?	pig?	cow?	mare?	lamb?	poultry
queen	pup?	sow?	bull?	pony	ewe?	chicken?
tom		hog?	heifer?	ponies	ram?	ducks?
lion?		boar?	steer?	foal?	goat?	geese?
cub?		gilt?	calf	colt?	nanny	turkey?
tiger?		barrow?	calves	stallion?	kid	hen?
		stag?	stag?	filly	billy-goat?	rooster?
				fillies	wether	poult?
				gelding?		pullet?

The "?" is used in certain on-line systems to indicate a term that may be truncated to retrieve plurals or other related terms (lamb? – lambs, lambing). With other systems, plurals and other variants will be indicated by (s), (ing), etc.

Many data bases have their own controlled vocabularies. If available, check the printed thesaurus for any given data base before going on-line.

IX. Instructional Media

Instructional media formats for the many aspects of veterinary medical education, both academic and continuing, take advantage of the entire range of resources that complement the traditional lecture, demonstration and print material. Noted here are specific bibliographic guides and sources that may be helpful to veterinary medical librarians or those who serve the veterinary medical community. Some of these are strictly veterinary medical in orientation; others are general guides that contain some veterinary medical materials. No attempt will be made to cover the general aspects of the preparation, handling or use of these resources, as there are other courses, institutes and workshops available through the Medical Library Association, National Medical Audiovisual Center, etc., that offer definitive instruction in the many facets of instructional media.

A. A-V Materials

1. Bibliographic Guides

a. American Veterinary Medical Association. *The 1979 Veterinary Audiovisual Catalog.* Schaumburg, IL.

This guide is well indexed under animal species, discipline or specialty, and body system or part. It is divided into four numerical listing sections:

Videotape, Slide Programs, Films and Text Materials. Many of the programs that are listed have not been evaluated; however, there are 40 programs that have won awards from the Student American Veterinary Medical Association since 1974, for their usefulness in academic programs. An Outstanding Autotutorial Award from the American College of Veterinary Preventive Medicine was instituted in 1979. The programs that have won awards are noted by asterisks. The AMVA has just initiated a new program to evaluate and certify high quality A-V programs. Standards and criteria have been developed and five programs had been certified at the date of publication. The AVMA *1979 Audiovisual Catalog* is a primary bibliographic guide.

b. World Veterinary Association. *World Catalogue of Veterinary Films and Films of Veterinary Interest.* 1975.

A rather limited listing that is indexed by broad subject, with subheadings for species. The titles and synopses for each film appear in the language of the original production. The majority are in the English language. The country of origin and pertinent information concerning distribution are given for each listing.

c. AVLINE (National Library of Medicine. AudioVisual catalog onLINE).

This data base represents bibliographic and review data for non-print materials in the health sciences. AVLINE and its hard copy publications, noted below, carry many citations of veterinary medical interest. All A-V materials have been professionally reviewed and recommended. AVLINE uses MeSH headings in the subject section. More complete information is given in the Name/Title section. This is a general medical bibliography which is useful for veterinary medicine because of its entries under species, disease entities and its subheading "veterinary" under major headings such as surgery.

1) National Medical Audiovisual Center. *Catalog, Audiovisuals for the Health Scientist.* Atlanta.

A subset of AVLINE which lists 16mm motion pictures and ¾ inch video cassettes.

2) National Library of Medicine. *Audiovisual Catalog.* Quarterly. 1978-.

This publication supersedes the AVLINE section of the quarterly issues of NLM's *Current Catalog.* Earlier citations may be found in NLM's *AVLINE Catalog 1975-76* and in NLM's *Audiovisual Catalog, Annual Cumulation 1977.* A-V materials listed in the NLM Audiovisuals Catalog are not available from NLM. To acquire a specific item, write to the sale or loan sources cited in the entry.

d. American Hospital Association and Hospital Research and Education Trust. *Resource Catalog.* 1979. Chicago.

This is of limited value to veterinary medicine, however, there are a few pertinent entries.

e. *The Video Log. Programs for the Health Sciences.* 1979. (formerly the *Health Sciences Video Directory*) New York, Esselte Video, Inc.

A comprehensive software directory with a detailed subject index, as well as a listing by producers, video subscription services and an alphabetical list. This is of general value rather than specific for veterinary medicine.

2. Sources

a. Educational Institutions

Individual listings of AV materials available for sale, rental or exchange have been prepared by several of the schools of veterinary medicine. A few examples are:

1) Oklahoma State University. Learning Resource Center. *VEDS 1979; Catalog of Learning Materials, Slide/Cassette and Videotape.* Stillwater, OK.

2) Michigan State University Marketing Division Instructional Media Center. East Lansing, MI 48824.

A number of available programs have been listed mainly by species.

3) University of California (Davis). *Catalogue of Instructional Programs Available for Rental and Purchase.* Davis, CA.

4) Colorado State University. *Videotape Catalog 1979/80.* Ft. Collins, CO.

b. Commercial

Some commercial and professional sources for the procurement of AV resources are listed below:

1) ANCOM produces audio cassettes aimed primarily at practitioners. They are available from the Practice Management Division/Maurice Johns Division, Lincoln, NE.

2) Pitman-Moore's Circulating Library is an extensive resource produced in conjunction with the American Animal Hospital Association for its competency-based continuing education program. A listing of the tapes available may be obtained from:

Pitman-Moore, Inc.
Veterinary School Program
9422 N. Meridian St.
Indianapolis, IN 46260

3) Veterinary Audio Review is a subscription service for tapes which are distributed monthly. The subscriber must have access to a tape player. The address is:

Veterinary Audio Review
Communication Center
P. O. Box 673
Pacific Palisades, CA 90272

4) American Veterinary Medical Association. *Freeloan Films.*

The catalog divides the films into those of general interest and those that are technical or semi-technical in orientation. These are available on loan from:

Modern Talking Picture Service
1687 Elmhurst Rd.
Elk Grove Village, IL 60017

B. Self-Instructional Multimedia Laboratories

Many of the veterinary medical schools have incorporated self-instructional multimedia laboratory programs into the educational armamentarium of the profession curriculum. These vary considerably in extensiveness, quality and emphasis. The programs are normally produced in-house by interested faculty members to fit particular curricular needs.

Excellent suggestions for the development of such programs are to be found in the following publication:

A Guide for Lesson Preparation for Veterinary Medicine. Edited by Alphonsus R. Niec, National Program for Instructional Development. 1978 Stillwater, OK, Oklahoma State University College of Veterinary Medicine.

X. Professional Associations

A. Library Associations

The library organizations most helpful to veterinary medical librarians are:

1. Medical Library Association (MLA)

The continuing education opportunities, publications and programs of the national and regional meetings make it possible for veterinary medical librarians to remain current with developments in the broad field of health sciences librarianship. MLA's group structure provides a fine opportunity for veterinary medical librarians to share mutual concerns within the Veterinary Medical Library Group. Individual membership in MLA is strongly encouraged as is support of its Veterinary Medical Library Group.

2. Special Libraries Association (SLA)

Through its continuing education, publications and programs, SLA aids the professional development of its members among whom are several veterinary medical librarians. Within the subject divisions, the Biological Science Division is the most appropriate for programs and concerns of interest to veterinary medical librarians.

Other library organizations that may be of interest are:

American Society of Information Science (ASIS); Health Sciences Communications Association (HESCA); American Library Association, Association of College and Research Libraries, Science and Technology Section (ALA/ACRL/STS); and various state and regional associations.

B. Veterinary Medical Associations

There are many professional societies associated with veterinary medicine and its practice. A knowledge of their existence and some pertinent information about them may be helpful to the veterinary medical librarian. Foremost among these are:

1. American Veterinary Medical Association (AVMA)

This is the largest organization representing veterinarians in the U.S. and Canada. Approximately 28,500 veterinarians hold membership. The structure is fairly complex and consists of the officers, Executive Board, several councils, boards and committees. The work of the various bodies encompasses education (professional, graduate and continuing), publication, research, and related activities. AVMA Headquarters are in Schaumburg, IL. Its staff consists of the Executive Vice President and approximately 12 professionals with related support staff. Officers of the Association are elected from the membership. Its publications consist of its journal (JAVMA), *American Journal of Veterinary Research,* numerous separate publications, its Directory, reports, proceedings, etc.

2. American Animal Hospital Association (AAHA)

This association is concerned primarily with the practice of companion animal medicine and the operation of animal clinics and hospitals. There are two types of membership – individual and hospital. AAHA is particularly active in continuing education for its members. Its publications include the *Journal of the American Animal Hospital Association,* and many short monographs, reports, and proceedings.

3. Association of American Veterinary Medical Colleges (AAVMC)

An association of veterinary medical educators and those interested in educational matters, the AAVMC is composed of three councils – the Council of Deans, Council of Chairmen of Veterinary Science Departments and the Council of Educators. Membership at large is open to all interested persons. Currently it numbers about 500. Veterinary medical librarians are encouraged to become members. The *Journal of Veterinary Medical Education* is the official publication. Educational seminars are sponsored twice yearly.

Other organizations related to veterinary medicine may be found listed in the *AVMA Directory 1978,* pages C-61 through C-68.

SELECTED READINGS

The following books and periodical articles may serve to provide an orientation to the profession of veterinary medicine as well as to its literature.

1. Bishop, D. Veterinary medicine and the medical school library. *Bull. Med. Lib. Assoc.* 57:275-280, July 1969.

2. Brodauf, H. et al. Searching the literature of veterinary science: a comparative study of the use of 10 information systems for retrospective searches from January 1972 to December 1974. *Vet. Rec.* 101:461-3, 3 December 1977.

3. Conzelman, G. M., et al. The use of computer-based data banks in the teaching of clinical problem-solving and medical case management to veterinary students. *J. Vet. Med. Educ.* 2:20, 1975.

4. Dorn, R. C., et al, Computer assistance in veterinary medical education. *J. Vet. Med. Educ.* 1:17, 1976.

5. Drake, M. A. and Woods, L. A. An information service for practicing veterinarians. *Bull. Med. Lib. Assoc.* 66:437-40, October 1978.

6. Gray, D. E. Veterinary information: the current situation and future trends. *Vet. Rec.* 98:271-4, 1976.

7. Hicks, Joan T. Computer-assisted instruction in library orientation and services. *Bull. Med. Lib. Assoc.* 64:238-40, 1976.

8. Kerker, Ann E. The library – the workshop. *J. Vet. Med. Educ.* 5:16-18, 1978.

9. Kerker, Ann E. and Murphy, H. T. *Comparative and Veterinary Medicine; a Guide to the Resource Literature.* Madison, University of Wisconsin Press, 1973.

10. National Research Council. Committee on Veterinary Medical Research and Education. *New Horizons for Veterinary Medicine.* Washington, National Academy of Sciences, 1972.

11. Peterson, Sara R. Evaluation of a veterinary medical library. *Bull. Med. Lib. Assoc.* 67:36-41, January 1979.

12. Schwabe, C. W. *Veterinary Medicine and Human Health.* 2d ed. Baltimore, Williams and Wilkins, 1969.

13. Schwabe, C. W. *Waht Should a Veterinarian Do?* Davis, CA, Centaur Press, 1972.

14. Smithcors, J. F. *The American Veterinary Profession, its Background and Development.* Ames, Iowa State University Press, 1963.

15. Smithcors, J. F. *The Veterinarian in America, 1625-1975.* Santa Barbara, CA, American Veterinary Publications, 1975.

QUESTIONS

1. How many young does a female brown bear bear?
2. What is the dental formula of the walrus?
3. Does Romania have any schools for animal health assistants and how long are the programs?
4. What is another name for "fowl pest"?
5. Is the parasite "trichomonas gallinae" likely to be found in cats and dogs?
6. Name three cestode parasites that may be found in sheep.
7. What is the recommended cage size for baboons?
8. What strain of mouse manifests a high incidence of diabetes mellitus? Where can I buy them?
9. I need one American alligator and two Pakistani long eared hedgehogs for my research – where can I buy them?
10. How do I make up Earle's Balanced Salt Solution?
11. What is the natural diet of a black swamp snake?
12. What does the N.Y. Zoological Park feed its Mexican vampire bats?
13. How do I find the title of an article on canine dermatoses published by K. L. Jones in *Vet Record* within the last two years?
14. Where could you go for a book review of B. F. Hoerlein's *Canine Neurology?*
15. What techniques are available for performing an intestinal anastomosis in a dog?
16. How do you medicate an elephant?
17. Where can I find the address of a veterinarian in Atlanta, GA?
18. Is there a zoo in Stoneham, MA?

19. What is PCP and who makes it?

20. When and where will the meeting of the American Association of Equine Practitioners be held this year?

21. Have the proceedings of the American Veterinary Radiology Society been published for 1978?

22. A practicing veterinarian would like current references on true hermaphroditism in dogs. Which data base would you use first if you do a computer search?

23. A toxicologist would like a literature search on the toxic effects of beryllium and boron compounds in animals. Which data bases would you use?

24. A small animal practitioner has several cases of canine demodicosis. He has heard that a review article was published in 1979. Can you find the article for him?

25. A large animal practitioner is interested in techniques for administering oral medication to a cow. Can you find a videotape that demonstrates such procedures?

SOURCES FOR ANSWERS TO QUESTIONS

1. Grizmek 12:120 (2-3).

2. Grizmek 12:389.

3. *World Directory of Schools for Animal Health Assistants*, p.110.

4. *Black's Veterinary Dictionary*, p.313.

5. No – the parasite is found in pigeons, chickens, and wild birds. Griffiths, *Handbook of Veterinary Parasitology*.

6. Griffiths, *Handbook of Veterinary Parasitology*.

7. *Laboratory Primate Handbook*, p.33.

8. KK strain. *Inbred and Genetically Defined Strains of Laboratory Animals*, p.25. *Animals for Research*, 9th ed., p.17.

9. *Animals for Research*, p.61, 63.

10. *Manual of Standardized Methods for Veterinary Microbiology*, p.678.

11. *CRC Handbook Series in Nutrition and Food* – G, v.2, p.296.

12. *CRC Handbook Series in Nutrition and Food* – G, v.2., p.391.

13. *Index Veterinarius*.

14. *Veterinary Bulletin* (author index).

15. Bojrab, *Current Techniques in Small Animal Surgery*, p.119.

16. Fowler, *Zoo and Wild Animal Medicine*, p.720.

17. *AVMA Directory*.

18. *Zoological Parks and Aquariums in the Americas*.

19. *Martindale's The Extra Pharmacopoeia* (phencyclidine hydrochloride – proprietary name is sernylan, Philips-Roxanne, USA). Use PDR for address of Philips-Roxanne.

20. *AVMA Journal* – meetings section.

21. *ISTP* or *Index of Conference Proceedings* (British Library Lending Division).

22. AGRICOLA

23. AGRICOLA, TOXLINE

24. *Veterinary Clinics of North America, Small Animal Practice* 9(1):79-92, 1979.

25. *Veterinary Audio Visual Catalog 1979*. VT-3.